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ORIGINAL ARTICLES.

The Diagnosis of Early Pregnancy.

BY WILLIAN S. GARDNER, M.D.

Associate Professor of Gynecology, College of Physicians and Surgeons, Baltimore, Md.

Read before the Gynecological and Obstetrical Society of Baltimore, November 19, 1896.—Reprinted from the American Journal of Obstetrics.

The positive diagnosis of pregnancy has been a topic of prime importance to physicians in all ages. Until quite recently it was a question that was often settled by allowing sufficient time to elapse for it to settle itself, the appearance of the child being evidence that could not be successfully disputed. A great step in advance was made when it was discovered that the fetal heart sounds can usually be heard during the latter half of pregnancy. Many obstetricians have not yet gotten beyond that point, and in many of our medical colleges it is still taught, and the great majority of practitioners now believe that a reasonably certain diagnosis of pregnancy cannot be made until the fetal heart sounds are audible. In the days gone by this hesitancy and indecision was not of so great importance as it has become since opening the abdomen has become an everyday affair. Formerly the physician was called in to decide the cause of the cessation of menses or the enlargement of the abdomen of some unmarried girl whose future reputation might be staked on his decision; or married women anxious to bear children, or others equally anxious not to have them, came to have their hopes or fears confirmed. These are sufficient reasons for the physician to exercise extreme caution, and are just as potent now as any time in the past; but recent surgical advances have added to these the great necessity of being able to recognize a pregnancy and distinguish it from other pelvic conditions at a period long before the fetal heart sounds can be heard. Not only is the reputation of the patient at stake, but the life of the child and the life of the patient, to say nothing of the chagrin of the operator who cuts down upon a normal pregnancy. These dangers to life and reputation make the diagnosis of pregnancy of much greater importance now than ever before. It would be rather overstating the case to say that a two months' pregnancy can be absolutely diagnosed in every instance, but it is well within bounds to say that a two months' pregnancy is the easiest to diagnose of all pelvic growths which present a tumor of equal size, and, further, that it is only where unusually exceptional difficulties are present that it is not possible to make a positive diagnosis.

In examining nearly three thousand women a very considerable number of pregnancies have been discovered, ranging from the sixth week of gestation to several months. Many of these patients have been seen subsequently, and in not a single instance has the diagnosis of pregnancy failed to be followed either by an abortion or labor at full term. This, of course, does not prove that no mistakes were made, but it indicates that the number of mistakes must have been small or at least a few would have been discovered.

The observations made on seventy-five of these cases, nearly all from seven to nine weeks pregnant, form the basis of this paper. In all of these the records are not so complete as could be desired. Some

errors of omission have been committed in the failure to record in all cases the presence or absence of some of the minor signs; and while a mental note was taken of them at the time, the fact that they were not recorded makes the impression that some of these minor signs are not present as frequently as they really occur. Again, it should be remembered that the breast signs are much more clear in women pregnant for the first time than in multiparæ; fifty-one of the seventy-five women examined are known to have been pregnant one or more times before the time at which they were examined. Of the remaining twenty-four nearly all were certainly pregnant for the first time, though a few may have had miscarriages which were not mentioned and left no definite traces.

The so-called "morning sickness," upon which so much value is placed by both the profession and the laity, is an indication of pregnancy the value of which has been overestimated. The sources of error are two: first, it is very frequently absent; second, it is very often produced by other causes than pregnancy. A typical morning sickness is not infrequently met with in patients who have a uterine displacement or an extensive salpingitis. When it is due to pregnancy it may begin at any period, but the characteristic time for its appearance is the day upon which the first missed period would have fallen. When it begins at this time and continues, and when associated with the absence of a menstrual period in a woman who has not had any previous stomach disorder, it becomes a sign of much value. I have made a note of its presence but thirteen times in seventy-five early pregnancies.

This is no doubt rather under the average, but it is by no means so constant as is generally supposed.

The cessation of the menses at a definite time, when they had previously been regular both in time and quantity, is always significant of pregnancy. Fifty of the seventy-five patients examined gave such a history. Not infrequently a woman will menstruate once after she becomes pregnant, but such a flow, while it comes at the regular time, will usually be smaller in quantity than is normal for that woman.

Seventeen patients were either nursing and had had entire absence of menses since the previous confinement, or else were so regular in her periods that nothing was to be learned from the menstrual history. Eight had had a discharge of blood from the uterus less than one month before the time when they were found to be pregnant. These patients usually belong to one of three classes: first, those who have had one or more periods after becoming pregnant; second, hemorrhages due to threatened abortion, either accidental or criminal; third, those who seeking to deceive the examiner, have deliberately stated that they had menstrated when they had not. Hemorrhages from placenta previo do not come on until a period later than now under consideration. These patients who have recently had a discharge of blood constitute a very difficult class of cases, and while in many it is easy to say that they have recently been pregnant, the difficult and important question to decide is whether the ovum has escaped. This can usually be decided by a bimanual examination.

In many cases, and particularly in nulliparæ, the history and breast signs will be sufficiently clear to form a basis for a reasonable suspicion of the existence of pregnancy. In multiparæ both the history and minor signs may be entirely lacking. In either class of cases we are compelled to depend upon a physicial examination for a definite diagnosis.

It is well to examine the breasts of all patients who complain of any pelvic trouble. This suggestion becomes an imperative duty whenever there is the slightest suspicion of pregnancy. It is true that a positive diagnosis cannot be made from the breast signs, but several points which assist materially in the sum of probabilities can usually be discovered. The breast signs are most constant and most reliable in those pregnant for the first time, and these are the cases in which they are of the most value to us. They are less constant and less clearly marked in those who have had several child-

ren, but in these patients the abdominal walls are usually sufficiently relaxed to render a bimanual examination an especially easy task. During lactation the breast signs are, of course, useless.

It is a matter of great difficulty to determine which of these signs is of the greatest value. They are very closely associated, and when one is well marked there are usually others perfectly clear. I believe, though, that the enlargement of the papillæ comes the earliest and is the most constant and easily recognized. They are situated in the area around the nipple which is affected by the increased pigmentation. Their increase in size is quite as marked in multiparæ as in women who have not borne children, consequently they are valuable signs in a larger number of cases than most of the other breast signs. At times a small amount of secretion can be forced from them, but it cannot be regarded as of any great value.

Enlargement and tenderness on pressure are very early and constant signs and are often accompanied by a pricking sensation. This early enlargement can be distinguished from the deposit of fat by the breasts being firm and standing out from the chest wall. The fat breast is large, soft, and even in multiparæ is more or less pendulous. The breasts do not assume the knotted or corded feel, produced by the enlargement and filling of the milk ducts, until a period of pregnancy later than that now under discussion. The increase in size and tenderness of early pregnancy is more of an erection than a hypertrophy. Of the twenty-four women pregnant for the first time, the presence of secretion in the breast was noted in fourteen, in four its absence was recorded, and in six there was no record. By the end of the third month it is present in nearly all cases. This is a very valuable sign, but it must be remembered that it occurs occasionally in girls who are not, and who never have been, pregnant; but these are rare, and will as a rule, be accompanied by a history that will easily distinguish them. In women who have borne children there may remain in the breasts for a long time sufficient secretion to be extracted by pressure, while during lactation, of course, the sign is absolutely useless. The increased deposit of pigment around the nipple is, as a rule, clearly marked in brunettes by the second month. It becomes deeper and more apparent as pregnancy progresses. In patients of the blond type the deposit of pigment is usually so slight as to be of little value. The fact that this deposit never entirely disappears makes this sign of very little value after the first pregnancy. In the first pregnancy it holds a prominent place among the breast signs.

An inspection of the breasts, the external genitals and their condition, and especially the color of the visible portions of the vagina, should be made. The discoloration of the vagina, due to the distension of its vessels with venous blood, has long been considered one of the most reliable of the secondary signs of pregnancy on account of its constancy. It is of much more value in the later stages of gestation than in the earlier. I have recorded it as distinctly marked fifteen times in seventy-five cases. These women were all, with very few exceptions, less than three months pregnant. It is stated that this congestion is also sometimes due to the pressure of pelvic or abdominal tumors; but so far I have failed to see this discoloration in anything but pregnancy. This frequent association with pregnancy, and rarely anything else, makes it strongly indicative of pregnancy.

Before attempting a digital examination the urine should invariably be drawn by a catheter. It is better to have the rectum empty also, but unless it is very much overloaded it will give little trouble.

In cases that have advanced as far as eight weeks, by the vaginal touch the superficial softening of the vaginal portion of the cervix, which gives a velvety feel, can be detected. This condition was found in all the seventy-five cases upon which this paper is founded. It is very rarely absent. I have seen but one pregnant woman who had a persistently hard cervix and that was due to a cicatricial tissue, and when labor came on it was necessary to forcibly dilate it. A

similar soft condition of the cervix is sometimes found in some of the inflammatory conditions of the uterus. So that it should be borne in mind that while it is practically always present in pregnancy, and it is consequently of much value, its presence in other cases detracts from its reliability. In attempting to elicit this sign the finger should be passed very slightly across the lips of the cervix. Hard pressure entirely destroys the characteristic feel. In a very large per cent. of women, where the uterus was in a normal position before impregnation, as soon as it begins to enlarge it has a tendency to tilt forward, and can be felt through the anterior vaginal wall without any external pressure being made to force it down.

I have never been able to make anything definite out of Hegar's jug-shaped uterus in a sufficiently large proportion of cases to render it of much value. On the other hand, by an ordinary bimanual examination it has been possible to arrive at conclusions that, at least to myself, have been eminently satisfactory. Just as in making a bimanual examination in other conditions, it is sometimes necessary to use an anesthetic to relax the abdominal walls; but ordinarily the anesthetic can be dispensed with. When the uterus is in the normal position, by placing two fingers of one hand in the vagina, bringing the tips of the fingers against the anterior vaginal wall—or, when retroverted, behind the cervix—and the other hand over the abdominal wall, the size, shape and consistence of the uterus can be easily determined. At eight weeks the uterus is about the size of a large orange, is regular in shape and distinctly *cystic*. Practically a cystic uterus is always a pregnant uterus. There is at least one exception to this statement. A cystic fibroid will give nearly the same sensation as a pregnant uterus. But the cystic fibroid is a very rare condition, and with it is an absence of all the symptoms and minor signs of pregnancy. It is a slow growth, and if there is any possible doubt it can be settled by a delay of ten days. In that length of time a pregnant uterus would increase very appreciably in size; the fibroid would not change materially.

It is hardly necessary to go into the differentiation of pregnancy from other small pelvic tumors. All that is necessary is to make sure that the tumor felt is the body of the uterus and that it is *cystic*. If the tumor felt is not the body of the uterus or is not cystic, it may be one of some dozen possibilities. In each of the seventy-five cases the other signs and symptoms of pregnancy were given due consideration, but the diagnosis was not made until a cystic uterus was clearly felt.

It is very difficult to learn the time of confinement of the nomadic dispensary patient. I have been able to find thirty of the seventy-five examined. Of these, fourteen were confined at full term, ten aborted, and six were re-examined in the latter stages of pregnancy, though the exact dates of confinement are not known.

Of the fourteen that were confined at full term, eleven were confined at periods varying between two hundred and one days and two hundred and fifty-seven days after examination, or, omitting the two extremes, the average duration of pregnancy after the examination was two hundred and eighteen days. All three of those confined less than two hundred days after examination were recorded as at least three months pregnant at the time they presented themselves.

Ten abortions in thirty pregnancies is a very high percentage. Some of these were accidential, but there is no doubt that the majority of them were produced by artificial means. Six of the ten were single women pregnant for the first time. One of the married women is known to have produced an abortion by artificial means. Another wished to have an abortion performed, and as she a few weeks later aborted it is highly probable that she had some assistance. This leaves only two that were probably accidental abortions.

In reviewing statistics of this kind we are impressed forcibly with the fact that the presumed period of gestation—that is, the length of time elapsing between the last menstrual period and the labor—is very variable. This variation is produced in two

ways: first, by some women menstruating after they have become pregnant, and thus apparently shortening the period of gestation; second, by the prolongation far beyond two hundred and eighty days. In five of the present series of cases, in which the last menstrual period was recorded so early in the pregnancy that little doubt could be thrown on its accuracy, the length of time elapsing between the menstrual period and the confinement varied from two hundred and eighty-six days to three hundred and four days.

The difficulties to be overcome in making the diagnosis, and some of the exceptions to the general rules, can best be illustrated by a few special cases.

Case 372.—The patient had been under observation, from time to time, for five years. She had a small uterus, acutely anteflexed. In 1893 she again presented herself. This time she had an abscess in both vulvo-vaginal glands, undoubtedly of gonorrheal origin. Later in the year her uterus was dilated, curetted, and packed with gauze. June 19, 1894, she stated that her menses had been absent since April 13. She had no morning sickness. The breasts were prominent, slightly tender, and a slight amount of secretion was present. The cervix was velvety; the body could be easily felt through the anterior vaginal wall, was enlarged to the size of an orange, and was cystic. A diagnosis of pregnancy was recorded. She was not seen again until July, 1896. The first question that was put to her was, "What was the date of your confinement?" She said January 27, 1895. That is, she was confined two hundred and twenty-three days after the diagnosis was made and two hundred and ninety days after the last period. This case presented no special difficulties, except that the patient was not married and had denied the possibility of being pregnant.

Case 972.—Presented herself January, 1893. She said that her menses had been regular up to and including September. In October, suspecting herself to be pregnant, she took oil of thyme and produced a slight discharge. There was no flow in November. On December 26 there was a discharge of water and then blood. She then took oil of pennyroyal and had a considerable flow on January 14, six days before the examination was made. She had had four children and one miscarriage previously, so that her breast signs were of no great value; but solely upon the condition of the uterus, as ascertained by bimanual examination, it was determined that she had not succeeded in producing the abortion which had been attempted. This was confirmed later by her having a full-time child on July 11. This patient must have been a little more than three months pregnant at the time the examination was made, but the irregular uterine flow and the attempts at abortion rendered the history useless.

Case 1268.—This patient had been suffering for nearly a year from headache, constipation, loss of appetite, weakness. On September 6, 1894, she complained, in addition to these other troubles, of sick stomach. At the time she was nursing a 13-months old child, so that the breast signs were entirely wanting. There was no discoloration of the vagina; the cervix was granular and of a blue color; the body of the uterus was the size of an orange, very soft and fluctuating. A diagnosis of pregnancy of a little over two months was made. She was seen nine weeks later. The vagina was distinctly discolored, and the fundus half-way to the umbilicus.

Case 1434.—White, 42 years old; had been married seventeen years and had seven children, the last one over three years before presenting herself on February 27, 1894. Her menses had been regular up to January 12. She insisted that she was not pregnant, because she had been in that condition so often that she ought to know. Her age made it seem more probable that the menopause was setting in. Upon examination her breasts were found to be tender, but neither tense nor secreting. The vagina was discolored. The cervix was everted and granular. The body of the uterus was in the normal position, but enlarged and soft. On these points a diagnosis of pregnancy was made. She was last seen June 20th, when the gestation had advanced to such a stage as to be un-

mistakable.

Case 1461.—White, aged 24; single. The patient was seen March 7th, 1894. She stated that she had never menstruated but three times in her life, the last time having been in June, 1893; that for the last four months she had had attacks of vertigo and sometimes fainting, which have recurred regularly every four weeks. She had no morning sickness. On examination her breast were enlarged, pigmented, and secreting. The vagina was purple; the cervix soft; the body large, rising far above the symphysis, and cystic. When told that she was without a doubt pregnant she indignantly denied the possibility of such a condition. Three months later she came to make inquiries as to confinement and was referred to the maternite.

Case 1512.—White, aged 22; married; presented herself April 27th, 1894. She was then nursing a 4 months-old child and complained of having lost blood in small quantities continually for three weeks. She was constipated and had very little appetite. She came the second time on June 2 st. The hemorrhage had ceased after the previous visit and had not returned. But she now complained of considerable pelvic pain. She was still nursing her child, now over 6 months old. Upon examination her uterus was found to be about double the normal size and cystic. She was told that she was again pregnant. She was not seen again until November, 1895, when it was learned that she was confined January 8th, 1895, or two hundred and one days after the diagnosis was made.

When seen the last time she was nursing this second one and about three months pregnant with the third one.

Case 1832.—White; married; mother of three children, the youngest 2 years old; come to the dispensary with her husband December 7th, 1894. Her menses had been absent about four months; the exact date of last flow was not known. She complained that she had had trouble with her head for a year past; that she could not control her feelings; that she was not able to concentrate her attention enough to attend to her household duties. She had no morning sickness. She stated that within two weeks she had consulted a physician, who had examined her and said that she had some womb trouble and that she must be operated upon to be relieved.

Physical examination: The breasts were very flabby; perineum ruptured and relaxed; vagina relaxed and discolored; abdominal wall thin and extremely pliable; the crevix soft and granular; the body of the uterus was larger than a closed fist and cystic. She was told that she was undoubtedly pregnant. She was confined July 19th, 1895, two hundred and twenty-four days after the examination.

The Physician Was Right.

Maryland Medical Journal.

Because the house surgeon in a hospital in Williamsburgh, New York, charged the widow of a patient a fee of twenty-five dollars for filling out a certificate by which she was enabled to recover insurance on her late husband's life, the executive committee of the hospital was aroused to investigate. This is a question which belongs as a side issue to the dispensary and hospital abuse question.

Those who take no interest in, or know nothing of, this question, or who are independent of hospitals, always uphold any charity for the help of the poor without considering whether it is actual help or whether it is pauperizing the poor patients and perhaps taking practice from poor physicians. It has always been a custom in most hospitals and even in the almshouses to make a charge to a patient's family for signing any papers by which the beneficiaries of that patient obtain money, and why a board of hospital trustees should take time to consider that question is not easy to see.

There seems to be a desire on the part of some to pay all persons connected with any institution except the medical staff, which is supposed to do its work for nothing and be glad to have the opportunity to contribute that much to charity. The sooner this idea is dispelled the better for the profession and perhaps for the people.

When a man makes a charge for a service rendered and there is money to pay and the demand is followed up by payment, he usually obtains more respect than the one who gives his services away and thus belittles his work. Let physicians be charitable where such charity is deserving, but let them not fail to stand up for their own rights.

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Topeka, Kansas, Saturday, March 13, 1897.

THE uncertain things in the practice of medicine often strike one as being exceptionally frequent. Diagnosis even by the most skillful is too often uncertain, and treatment may nearly always be classed under the uncertain head. Prognosis, we believe, is an uncertain quantity, and yet in the average the certainty of prognosis is surer than diagnosis. It is not always the fault of the diagnostician that errors occur, but altogether too frequently it is. It is a common fault to jump at conclusions before all the facts in the case are known. Tubercular phthisis is not usually a difficult disease to diagnose, and yet there are cases that are pronounced phthisis which a more careful examination and study prove to be something else. Mistakes of this kind do not occur nearly as frequently as the other kind where cases of phthisis are not recognized, particularly so in those cases of early trouble where the symptoms are obscure. These are the cases that require the most careful examination and thoughtful observation. There are so many symptoms that correspond to other conditions of malnutrition that symptoms are only pointers to be proven by physical signs. The careful study of physical signs is a most essential preparation for the diagnosis of this class of diseases, and a familiarity with all aids to diagnosis is also essential. The man who is not accustomed to the use of a stethoscope must frequently fail to recognize the earlier signs of phthisis, and more often fail to detect the obscure forms of heart lesion. We cannot by a cursory examination of a chest through several thicknesses of clothing and by the unaided ear pronounce a patient free from either a disease of the lungs or the heart. A diagnosis in these cases is of the utmost importance and no means should be neglected by the physician to make a certain diagnosis. Too often we hear physicians pronounce the stethoscope a useless ornament, but very seldom does such a statement come from one who is accustomed to their use or who is familiar with the signs of chest diseases.

IT has been suggested that a joint meeting of the three State societies, the Regular, Homeopathic and Eclectic, be held in Topeka one day during their regular sessions. No arrangement has yet been made and it is very uncertain if it can be done satisfactorily.

THE Legislature is on the eve of adjournment and nothing has been done for the medical profession up to this hour. The medical bill has evidently been turned over to the janitor, and the anatomical law seems to have been buried with its boots on. We are not popular with this administration and from the history of politics in this State it would seem the profession has been in

bad odor for some time. Missouri has even fallen from grace, and the grand efforts which our esteemed Bro. King put forth for the elevation of the medical standing there seem destined to meet in a grand elevation of quackdom. We are not in it. We have never been in it. But we hope to be some time.

MEMBERS of the Kansas Medical Society who intend preparing papers for the next meeting, May 12–14, should notify the secretary of the proper section, or the corresponding secretary, W. E. McVey, Topeka, Kas.

THE Legislature finally concluded to supply funds for the State Board of Health. If the Senate bill to strike out the law creating the board does not pass the House we may still be in the swim.

DR. W. R. PRIEST, of Concordia, Grand Medical Examiner of the A. O. U. W., was recently married to a lady of his city.

DR. J. W. DONALDSON will fill Dr. Storrs hour at the Kansas Medical College during the remainder of the term.

DR. W. H. BROWN, of Selden, Kas., was in the city this week and called at the JOURNAL office.

DR. FRANCIS STORRS is rapidly recovering from a serious pyemic trouble.

DR. PIZE has discovered a new anæsthetic. He has found that by injecting guaiacol under the skin in small doses operations can be performed without pain.

MISCELLANEOUS.

Proceedings of the Topeka Academy of Medicine and Surgery.

The regular monthly meeting of the Academy was held March 8, at 8 p.m., Dr. Barnes presiding.

Members present: Drs. J. C. McClintock, R. E. McVey, McLaughlin, Wehe, Barnes, Adams, Alkire, Wallace, Ward, W. D. Storrs, Stewart, and Powell. Visitors, Dr. Lyman of Manhattan, and Dr. L. C. Duncan; also a dozen medical students.

Dr. D. E. Esterly, being recommended by the committee on membership, was elected a member of the society.

Dr. McVey was called upon to give a report of some case or a talk on some subject.

Dr. McVey: I have a case of skin trouble that I think will be of interest. Some diseases are subjective, some objective. This disease of which I speak is a pruritus. The skin is an extension of the nervous system and both belong to the ectoderm. If we have an irritation of the nervous system we may have a pruritus. This itching sometimes is very slight and again is intolerable. This particular case was of the vulva. Pruritus is obstinate and may be produced by indigestion. We may have a general pruritus or it may be local. The vulva and anus are usually involved. I had one case that was on the scrotum. I examined the urine and found nothing. Thorough cleanliness gave temporary relief. Dilute hydrocyanic acid gave the most relief. When the patient gets warm the itching comes on. I have seen it on the wrist and foot. Sometimes an eruption, such as in urticaria. These cases are directly traceable to indigestion. I had one patient in whom strawberries produced a pruritus. I have a patient now who has an endometritis. When I got through with a treatment I found she could not speak. After a few minutes she recovered speech but said she was numb, and this numbness was soon followed by an

attack of urticaria. On the subsidence of numbness the itching and urticaria disappeared. I use ℥ j of bicarbonate of soda in a pint of water for bathing and give a little sulphate of magnesium.

Dr. Barnes: I have a patient who has an itching every morning upon touching water or going into the cold.

Dr. Lyman: I put them on quinine and iron. I had one case of pruritus ani caused by piles. One of my patients suffering with pruritus had an attack when he was away from home and in his desperation used the half of a lemon locally with the most satisfactory result. I have tried it on one patient since and the patient still lives.

Dr. Ward read a paper on "Tuberculosis of Bone and Joints," which will be published later.

HARRIET E. ADAMS, M.D.,
Secretary.

Annual Announcement of the American Medical Association.

OFFICE OF THE PERMANENT SECRETARY,
1400 PINE ST., PHILADELPHIA.

The Forty-eighth (there were no meetings held by the Association during the years 1861 and 1862) Annual Session will be held in Philadelphia, Pa., on Tuesday, Wednesday, Thursday and Friday, June 1, 2, 3 and 4, commencing on Tuesday, at 10 a.m.

"The delegates shall receive their appointment from permanently organized State medical societies, and such county and district medical societies as are recognized by representation in their respective State societies, and from the medical department of the army and navy and the marine-hospital service of the United States.

"Each State, county and district medical society entitled to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number; *Provided*, however, that the number of delegates for any particular State, Territory, county, city or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the Association."

Members by Application.—Members by application shall consist of such members of the State, county and district medical societies entitled to representation in this Association as shall make application in writing to the treasurer, and accompany said application with a certificate of good standing, signed by the president and secretary of the society of which they are members, and the amount of the annual subscription fee, $5. They shall have their names upon the roll, and have all the rights and privileges accorded to permanent members, and shall retain their membership upon the same terms.

The following resolution was adopted at the session of 1888:

That in future each delegate or permanent member shall, when he registers, also record the name of the section, if any, that he shall attend, and in which he will cast his vote for section officers.

Secretaries of medical societies, as above designated, are earnestly requested to forward, at once, lists of their delegates.

Addresses.—The Presidential Address, Nicholas Senn, Chicago; Address in Surgery, Wm. W. Keen, Philadelphia; Address in Medicine, Austin Flint, New York; Address in State Medicine, John B. Hamilton, Chicago.

Committee on Arrangements.—H. A. Hare, 222 S. 15th Street, Philadelphia.

Officers of Sections.—Practice of Medicine, J. H. Musser, Philadelphia, chairman; J. T. Priestly, Des Moines, Iowa, secretary.

Obstetrics and Diseases of Women: Milo B. Ward, Topeka, Kan., chairman; Geo. H. Noble, Atlanta, Ga., secretary.

Surgery and Anatomy: Reginald H. Sayre, New York, chairman; Bayard Holmes, Chicago, secretary.

State Medicine: Elmer Lee, Chicago, chairman; Louis Faugeress Bishop, New York, secretary.

Ophthalmology: G. E. de Schweinitz,

Philadelphia, chairman; H. M. Starkey, Chicago, secretary.

Diseases of Children: Jas. A. Larrabee, Louisville, Ky., chairman; H. E. Tuley, Louisville, Ky., secretary.

Dental and Oral Surgery: R. R. Andrews, Cambridge, Mass., chairman; Eugene S. Talbot, Chicago, secretary.

Neurology and Medical Jurisprudence: W. J. Herdman, Ann Arbor, Mich., chairman; Chas. H. Hughes, St. Louis, Mo.

Dermatology and Syphilography: A. Ravogli, Cincinnati, Ohio, chairman; T. C. Gilchrist, Baltimore, Md., secretary.

Laryngology and Otology: Wm. E. Casselberry, Chicago, chairman; D. Braden Kyle, Philadelphia, secretary.

Materia Medica, Pharmacy and Therapeutics: W. B. Hill, Milwaukee, Wis., chairman; F. Woodbury, Philadelphia, secretary.

Physiology and Dietetics: A. P. Clarke, Cambridge, Mass., chairman; Ephriam Cutter, New York, secretary.

WM. B. ATKINSON,
Permanent Secretary.

Malaria Germs Carried by Mosquitoes.

Lancet.

It has often been suggested that flies and mosquitoes are active disseminators of bacteria. They have been accredited with being active carriers of typhoid, cholera and other pathogenic micro-organisms. Dr. Amigo Bagnani has been studying the matter in Italy and presents the following facts to sustain the theory:

If one admits the inoculation hypothesis many facts which are difficult to explain by the theory of air-conduction would find a simple and satisfactory explanation, and it is easy to demonstrate this. First of all, the fact, which we have already discussed at length, that malaria is not carried by the winds would be easily understood, knowing as we do how closely these diptera are bound to the soil on which they are hatched, and how adverse they are to allow themselves to be carried away, hiding, when the wind blows, in the ground, among the grass, or under the trees. Also when a sea breeze blows in the afternoon the mosquitoes of the Roman Campagna do not show themselves, and only when the wind has gone down at the setting of the sun do they rise in clouds everywhere and attack animals and men. That the evening and night hours are the most dangerous, on account of the facility with which fever is then taken, would be easily understood by any one who knows the habits of this nocturnal dipter. That malaria only rises to a moderate height would also be equally intelligible, because the inoculating insect always flies near the ground. A satisfactory explanation would also be furnished of the great danger of sleeping in malarial districts, a fact of which the supporters of the air-conduction theory have never been able to give more than an artificial explanation. Any one who has experience of malarious districts well knows a number of cases in which the patient attributes the fever that torments him solely to having slept a few hours in a place where several times he had perhaps remained while awake without harm. Three years ago I made with my colleage, Dionisi, various excursions into malarious localities for the purpose of study, and more especially with the object of collecting from the inhabitants the results of their experience—an experience which one finds with difficulty in books. Many precautions which they take against the fever are taken, one would say, to defend them from the sting of insects. They avoid going out at night; they are very careful not to sleep in the open air; they hermetically close the windows—windows with badly fitting shutters, which might impede the ingress of insects, but certainly not of air and the germs which it might contain. They take great care of their mosquito curtain, making it a very close net, under which they sleep, thoroughly shut in, notwithstanding the great heat.

It is interesting to remember that Emin Pasha never omitted to take a mosquito net with him on his African journeys, and he attributed to this precaution his not having had fever, the malarial agent in his

idea being a corpuscular substance of which he supposed the close net did not permit the passage. Nicolas, in his book on the "Hygiene of Camps in Marshy Places," thus expresses himself on this question: "And the mosquito net, well shut, is indispensable at night. Without attributing to the puncture of mosquitoes any relation whatever with the microbes of the fever, one may be certain that irritation by them produces sleeplessness and predisposes to the fever." On the estates and farms visited by us in the Campagna, the overseers, who are less frequently attacked by the fever than the workmen, protect themselves with great care from the bites of insects, especially during sleep. On the estate of Porto, near Fiumicino, where a bad type of malaria prevails, and which I visited several times in company with my colleague Dionisi in the height of summer, we obtained the greatest amount of information about the habits of mosquitoes, and the results of the experience of the inhabitants on the way in which the fever is caught. The greater number think that the fever is taken almost always during sleep. A very brief stay sometimes suffices—even one night. But ordinarily, even in districts very subject to malaria, a longer stay is necessary, so that the workmen who go on to the property at the beginning of July for the threshing, commence to get ill, as a rule, eight or ten days after their arrival. On the other hand, those who go in September for the working of the ground often get ill more quickly—after only two or three days' stay. Many have observed that in autumn after the rains the mosquitoes increase and likewise the fevers, and as the season advances they disappear together little by little. Thus, collecting from the inhabitants (who are really much better informed about malaria than some medical men) the results of their experience, the conviction grows upon one that if malaria were inoculated by mosquitoes into man all the questions which I have put in a preceding paragraph would receive an adequate answer. Malaria behaves itself with regard to man as if malarial germs were inoculated by mosquitoes.

The Diagnosis Of Malaria.

Medical Record.

Dr. William Osler, of Baltimore, read the above mentioned paper. Points of interest in regard to malarial fever were:

1. It was a disease well known to the old Greek and Roman physicians, some of whom gave a wonderfully accurate description of its clinical varieties.

2 It remained after two hundred years the only acute infection for which we had an absolute specific.

3. It was the most important known disease due to a protozoon parasite.

4. Physicians were prone to diagnosticate malaria for other diseases, and other diseases for malaria, which led to serious errors in vital statistics.

There were three well-known varieties:

1. The tertian organism, which matured in forty-eight hours and produced quotidian paroxysms if two crops were present, tertian if only one. This was the parasite of common, simple, intermittent malarial fever of the spring and autumn.

2. The quartan parasite, which had a cycle of development of seventy-two hours, and if only one crop was present gave the regular quartan intermittent; if two or more crops were present, the paroxysms might occur every day or every other day. The quartan type was rare north of the Chesapeake Bay, Dr. Osler having found it in only about fifteen out of one thousand cases at his clinic.

3. The parasite of irregular malarial fever—the remittent, continuous, and pernicious types. This variety of organism was smaller, less readily recognized, was not so abundant in the peripheral circulation, and in pernicious forms might select curious sites, as the brain or mucosa of the intestines. It was further characterized by the development of crescents—a fact of greatest moment in diagnosis.

The recognition of the invariable association of these parasites with all forms of malarial fever, their etiological relation to the disease, and their importance in diagnosis,

had resulted from the labors of Laveran and of his followers in Italy and other countries. The Italians deserved special credit for their continued work in this line. Much yet remained for investigators to do in showing the relations of the different varieties of these protozoons to one another, the significance of the different forms, their life history outside of the body, and the mode of infection. Was it a facultative parasite? How long might it remain dormant in the system without producing symptoms?

It was not easy to obtain a correct knowledge of the forms of the malarial parasite. It required months of careful study and plenty of material. Some papers had been published in this country and in India, which bore evidence that the authors had approached the subject without due technical knowledge. Dr. Osler urged that in all doubtful cases, particularly in all cases of supposed mixed infection, as of typhoid and malaria, cover-slip specimens of the blood be preserved, which if necessary could be submitted to the judgment of an acknowledged expert. This specimen when stained was of almost equal value with the fresh blood.

The diagnosis of malaria in a large majority of cases was a very easy matter. The subject might be considered under three heads:

1. The diagnosis of regular malarial intermittent fevers; 2, of irregular, remittent, and pernicious forms; 3, of spurious malaria.

Simple intermittent, the only form of malaria common in this country, was characterized by paroxysms developed at the end of forty-eight hours if a single group of parasites was present, at the end of twenty-four hours if a double group existed or one which matured every day. There were three features by which the ague might be recognized:

1. The character of the febrile paroxysm. The duration of the pyrexia from the rise above ninety-nine degrees F. until the fall to normal was from eleven to twelve hours, rarely shorter, still more rarely longer.

2. The blood showed the hæmatozoa in all stages of development. There was no leucocytosis.

3. The administration of quinine caused rapid development of the paroxysms.

The three points referred to, but especially that of the period of fever, served usually to distinguish this type from the forms of septicæmia, since in the latter the period of fever varied, lasting from six hours up to eighteen or twenty. In septic conditions, too, there was absence of hæmatozoa, resistance to quinine, presence of leucocytosis. Dr. Osler had seen some cases of tuberculosis in the early stage, with chill and fever, treated for malaria and valuable time lost. Abscess of the liver was treated all over the country for malaria, and the patients were drenched with quinine. Cases of stone remainieg in the gall ducts sometimes kept up an irrigular fever for months or years, and were often mistaken for malaria. Influenza was sometimes diagnosticated malaria, as were various other affections. But the chief difficulty was in distinguishing between those cases of irregular malarial fever and remittent fevers simulating typhoid. Even in the hospital they had mistaken some cases of malaria for typhoid and given the patients the bath, rather to their displeasure. But the mistake consisted oftener in diagnosticating malaria as typhoid rather than typhoid as malaria. Important differential points were, first, the mode of onset, which in malarial remittent was much more sudden than in typhoid; absence of the protracted period of malaise, greater frequency of chills, rarity of epistaxis, more rapid rise of fever, rarely presenting a step-like rise, temperature reaching as high even as 106° F. by the second or third day, which was rare in typhoid. Perhaps the most important point in diagnosis between malaria and other fevers was the character of the fever in malaria which was intermittent from the outset

A third point was the general appearance of the patient. In walking through the wards of a hospital one could pick out cases of malaria, particularly those of the intermittent type, but the facies within a week after the plasmodia had been nibbling at

the red blood cells. There was anæmia, and, as a rule, it is shown by the sallowness of the complexion. During the first week there might be little difference in the appearance of the patient with typhoid and one with remittent malarial fever. Herpes, rare in typhoid, was exceedingly common in all forms of malaria. Such general features as bronchitis, gastro-intestinal disturbance, and the headache offered no special criterion.

The fifth diagnostic element related to blood examination. Usually the diagnosis could be made clinically by the tenth day, and one might not find any evidence of malaria in the blood before the end of a week, while Vidal's reaction in typhoid was rarely elicited before the sixth or seventh day. Marked remissions of temperature, with falls to subnormal, and the development of anæmia, usually confirmed the diagnosis of malaria by the eighth or tenth day. If there were doubt, quinine would clear it up. The author believed they had not had a single case at the Johns Hopkins in which malarial remittent fever had resisted the proper administration of quinine for more than three days. But the parasites did not disappear so rapidly as in single intermittent, for they were hidden in the spleen, in the bone marrow, and were more difficult to get at. The crescent form laughed at quinine, and would presist in the blood for weeks.

How far in paludal regions did typhoid fever take on malarial aspects? There was a rooted belief among physicians in various sections of the country that typhoid often presented malarial features. Failure to recognize the protean character of typhoid was the basis for this delusion. Dr. Osler had seen typhoid fever when he practiced in Montreal, also in Philadelphia, and over five hundred cases had been treated in his wards at the Johns Hopkins, most of the latter coming from the same districts as those which furnished their cases of malaria; yet in these different cities typhoid had presented the same characteristics, and did not take on malarial features. Very seldon was there combined infection with the hæmatozoa and the Elberth bacilli. Combined with hæmaturia, Dr. W. Gilman Thompson's was the only case in this country. But the combination of malaria with pneumonia and with dysentery was not uncommon. Quinine would stop the malaria and the pneumonia would run its usual course. In some cases of tpyhoid fever a sort of septic fever developed after six or seven weeks, which might cause some suspicion of malaria, but certainly the majority of the cases was not malarial.

They had had two cases of pernicious malarial fever admitted to their wards which passed unrecognized, and Dr. Welch had made the diagnosis at autopsy. One was a case of suspected pneumonia.

What was spurious malaria? He did not know. One form of it was fatal. He suspected the Elberth bacillus and not the plasmodium was responsible for most of the cases. He had no faith in the statistics attributing death so frequently to malaria in Brooklyn. North of the Chesapeake fatal forms were so rare that no health board should accept a death certificate signed malaria without investigation. The symptoms of malarial disease in temperate regions in this country were well defined and easily recognized, and the widespread belief in masked forms had no rational basis of support.

A Contribution to the Study of Hypnotism.

The Atlantic Medical Weekly.

Dr. Josi Luna, of Colima, Mexico, at the Pan American Congress, read a paper upon this subject, said in sub tance: Being thoroughly convinced that in all doubtful or controversial questions of science, well observed facts beyond the reach of criticism are those which really decide, he had determined to bring before this learned meeting a short series of facts of this character, protesting that he had been in no way governed by any prejudice or dogma whatever, which could in any way lead him to alter their nature:

1. Suggestibility is the fact that we find most constantly appearing in this combination of physiologic and psychologic phenom-

ena that constitute hypnotism, and it is therefore undoubtedly one of the surest means of controlling the diseased or healthy brain and impressing it with fixed ideas, and thereby nullifying or counteracting, at least, the insane fixed ideas or customs which have taken possession of the subject.

2. It is a fact perfectly well confirmed by his own experience, that a suggestion can exercise its influence on phenomena of vegetable or animal life, which in the ordinary course of things are independent of consciousness or will, and from this point of view, suggestive therapeutics constitute a powerful resource in many diseases, that at first sight, would appear to be entirely disconnected in their origin from cerebral innervation.

It appears that by this means the brain recoveres all its powers over the system.

3. This last characteristic of the suggestion appears easy to explain. In the same manner as sensation is normally transformed into an idea, the idea which is suggested is also transformed into sensation, and once the sensible images are developed in the brain, by reflection or excitement of the motor nerves, as in a normal state, they provoke the execution of the suggested act, deducing from this mechanism the following law, which is perfectly capable of demonstration: In proportion as the act suggested is better understood and developes better defined and lively sensations, the suggestion will be easier to execute.

4. The suggestion is also the simplest and easiest means for producing a hypnotic state. In his first sitting, he generally makes suggestions to the patient, with respect to the means and the time that he will employ to put him to sleep on the next occasion.

5. In every case it is indispensable to make certain that the subject does not simulate sleep by subjecting him to different proofs.

6. He feels certain of efficacy of hypnotic suggestion in cases of hysteria. He first proceeds to investigate and eradicate the fixed sub-conscious idea or ideas that habitually produce the attack. He afterward directed his suggestions toward modifying the impressionability of the subject and his ways of controlling his emotions. He had not yet obtained any favorable results in epilepsy, but was well acquainted with efficacy of suggestion in the cure of dipsomania and morphomania. One of his hypnotized patients was able to tell the exact hour, even to the minute, by his watch, which was closed and out of order. As this phenomenon might have some relation to the X-ray, he states that the watch case was made of fourteen carat gold, with a thickness of one millimetre. The same patient had the singular power of waking at the exact hour and minute that was indicated to her, whatever might be her position with respect to the clock in the parlor, and sometimes when there would be two or more rooms between herself and the clock. Another singular point in this patient was her great sharpness of hearing.

In conclusion the author queried why it is, that notwithstanding the valuable evidence that has been furnished and the comparative facility for verifying and applying the facts, hypnotism has not yet entered more fully into medical practice.

FISH bones can be removed from the throat by giving from four to six ounces of milk, and forty minutes later an emetic dose of sulphate of zinc. The coagulated milk carries the bone out with it.—*General Practitioner.*

THE Berlin Medical Society, on January 6, unanimously re-elected Professor Virchow as president. Professor Virchow opened the meeting with a speech in memory of Dr. Du Bois-Reymond.

A VEGETABLE foreign body in the ear can be reduced in size before removal by instilling a few drops of glycerine or of alcohol and water.